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Ярославль (4852)69-52-93

<https://sunstone.nt-rt.ru> || sek@nt-rt.ru

Настольные лазерные сварочные аппараты Orion LZR ECO

orion

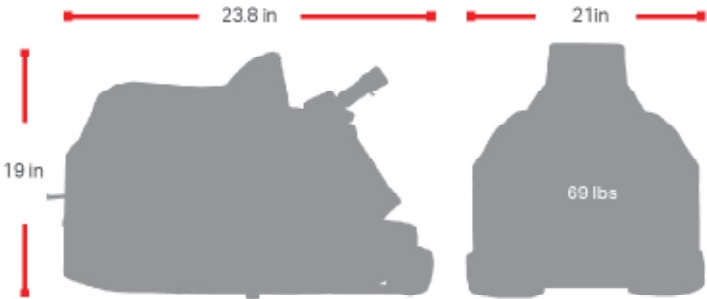
LZR ECO Laser Welder

Benchtop Users Guide

Version 20230627 • Part #1401



LZR ECO 35		LZR ECO 160	
Laser Source and Wavelength	Nd: YAG 1064 nm		
Energy Range	0.1 - 35 J	0.1 - 160 J	
Peak Pulse Power [kW]	3 kW	6.4 kW	
Impulse Time	0.1 0 12 ms	0.1 0 25 ms	
Welds per Second	0.5 - 6	0.5 - 15	
Pulse Frequency	0.5 - 6 Hz		
Spot Diameter	0.2 - 2.0 mm		
Argon/Air Nozzle	Yes/Not Available		
Spot Size Adjustment	Motorized		
Stored Welding Schedules	100		
Optics	10x Stereomicroscope		
Control Joystick	None		
External Control	7" Color Touchscreen		
Input Power	110 V AC, 50/60 Hz, Single. Non-Switching		
Ampere	10A		
Welding Chamber Dimensions [LxWxH]	7.5 x 20 x 6 inches		
Footprint Dimensions [LxWxH]	23.8 x 21.2 x 19 inches		



class of the laser welder.

Chapter 2: Installation

Carefully follow these instructions to prepare the Orion LZR ECO laser welder for safe operation:



Figure 8.1 Back Panel connections include: Power Input, Interlock, Foot Pedal, and Shielding Gas.

- Position the welder on a strong, sturdy table or workbench that is able to support the weight of the welder (approximately 69 lbs/ 32 Kg). Verify all four support legs of the laser are resting firmly on the table or workbench.
- Connect the power cable to the wall outlet and then to the back of the welder.
- Connect the Interlock into the Interlock Port on the back of the welder, as shown in Figure 8.1
- Connect the foot pedal to the Remote Control Port found on the rear of the welder (see Figure 8.1).
- If using shielding gas, connect it to the Gas Inlet connection as shown in Figure 8.1. Do not exceed 1.5 bar of pressure to the shielding gas connection.

NOTE: Do not exceed 1.5bar of pressure to the shielding gas connection

ATTENTION: Use only the cables and equipment shipped with the welder or provided by Sunstone. Do not substitute or change any cables or plugs.

- Remove the eyepieces from the



Figure 9.1 Attach eyepieces to the microscope tubes and tighten the screws with an Allen wrench. The eyepiece with the crosshairs is attached to the right tube.

containers and fasten them on the tips of the microscope tubes. Tighten the screw on the tube using a 2.5mm Allen wrench and plug the connector. See Figure 9.1.

Note: To align the microscope crosshairs, see page 20.

NOTE: As a general practice, the eyepiece with the crosshairs should be placed in the right ocular tube.

Adding Cooling Water

NOTE: During the first setup and installation, extra steps are needed to get the welder functioning. The next steps are only important during the initial setup, or after changing the water in the welder.

Refer to Figure 9.2 and carefully follow these steps to add cooling water:

- Insert the plastic tube and connector shipped with the welder to the Female Connector "Remove Water" Port located at the bottom of the rear panel, as shown in Figure 9.2. This port is used for filling and removing the water from the welder.
- Connect the funnel that was shipped with the welder to the other end of the plastic tube to fill the tank.
- Remove the plug from the upper connector tube.



Figure 9.2. To fill the welder with coolant water, attach the funnel, tube, and connector to the bottom Female Connector "Remove Water" Port. Remove the Red Plug from the Upper Connector tube. Fill the welder with deionized water that comes with the Orion LZR laser welder.

LZR ECO LASER WELDER USERS GUIDE

- Using the deionized water that was shipped with the welder, fill the welder until you see water coming out of the Upper Connector of the tank or until the water jug is empty.
- Remove the plastic connection from the Female Connector. To minimize the amount of spilled water, place you thumb over the open end of the tube while removing it from the connector.
- Turn on the welder by flipping the switch on the back of the welder and then press Start.
- Turn the key switch on to cycle water. If a Flux Error occurs, turn the key switch off and then back on. Press start. Repeat this process until the error doesn't show.
- If you do not see the "ERROR 02 TEST FLUX H2O" error, your welder is ready to use.

Powering the Welder for the First Time

- Ensure that the Emergency Stop Button is disengaged and not pushed in. See Figure 10.1.
- Turn on the welder by flipping the switch on the back of the welder.
- Insert the key and turn clockwise so the key is vertical. See Figure 10.2.



Figure 10.1. Make sure the Emergency Stop Button is disengaged.

NOTE: Do not proceed with the installation if the display does not show as described above. If you encounter any problems or errors, consult chapter 5 of this document, or contact Sunstone Engineering.

At this point you will be able to set welding parameters, load saved settings, if desired, and begin welding.

To turn the welder off, turn the key to the Locked position, wait for the touchscreen to display the message "LASER LOCKED," then flip the rear power switch to the off position.

ATTENTION: When the welder is not being used, ensure that the key is removed from the welder.

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